

CHAPTER III

RESEARCH METHODOLOGY

This chapter presents the research methodology includes setting and subject of the research, location and time of research, research variable, research method, research design, population and sample, research instrument, research procedure, data collection technique, data analysis technique.

A. The Research Method

In this research the researcher used quantitative method. Based on Creswell (2012), the researcher builds a complex, holistic, picture, analyze words, reports detailed views of informants and conducts the study in a natural setting. Thus, this research was conducted to find out the difference of Collaborative Approach (with Two-Stay Two-Stray) and Scientific Approach through administering pre-test and post-test to get the scores and to have numerical data.

B. The Research Design

A quantitative method in the form of quasi experimental design was employed in this research. There were two groups which were involved. The first group was the experimental group (EG) and the second one was the control group (CG). According to Fraenkel & Wallen (Wallen., 2009), an experiment regularly involves two groups which can be determined as experimental group, control group or a comparison group. In this research, the experimental group and the control group received a different treatment in the classroom. Since the research

to find the different of using collaborative approach and scientific approach in improving students' speaking skill, the innovative method was applied in the experimental group while the control group was given scientific approach. The innovative method was called by two-stay two -stray. It was used as a treatment for experimental group.

C. Population and Sample

The population of the study was the first grade students in SMK Budi Bakti Utama Padalarang . There are 3 classes which is less of 30 students in each class. Thus, total of population is about 90 students

The sample of the study is only two classes of the tenth grade students. The determination of these two group was using cluster random sampling. The researcher took sample in first class is X TKJ as the experimental group and the second class is X Marketing as control group. The researcher finally got both of class X TKJ and X Marketing from the English teacher's recommendation because both of class had the same characters and both of class have got the same material.

D. Research Instrument

The instrument is tools, equipment or other methods used by researchers to assess and collect data on the subject or object of research (kaswan dkk,2019). The instrument used in this research to collect the data were pre-test, post-test, observation and interview.

In this research, it was used written tests which the researcher had done in this research:

1. Test

- a. Pretest

The student were given a test before treatment, which consisted of a material. This test intended to know the result of students' speaking before receiving the treatment.

- b. Posttest

Post-test was given after treatment had been conducted. It was aimed to measure the effect of the treatment. The items and procedures of posttest was the same as pretest.

Instrument of Analysis

The analysis of the results of the instrument trial was to find out whether the items in the test had fulfill test requirements that were good or not. The analysis of the results of the instrument trials also tested whether the test was valid and reliable so that it could be used as a research instrument. The analysis that will be used includes validity and reliability.

1) Validity

Validity is the most important consideration in developing and evaluating research instruments. In general, validity refers to the suitability, meaningfulness, accuracy and usefulness of the inference/conclusion made by the researcher (Tavakoli, 2012). Validity is the ability of a measuring instrument

to determine suitability, meaningfulness, accuracy and usefulness of the inference/conclusion made by the researcher.

Before the actual test is distributed, it is necessary to first test the instruments on several students as samples. This is intended to eliminate the text that are not appropriate, evaluate whether the words submitted in the test are easily understood by students or not and to determine the length of filling out the text.

The researcher uses item analysis with the Microsoft Excel program.

- a) To determine the validity of each item, enter the data in Microsoft Excel into SPSS worksheet column. For that the first open SPSS program, and then click **Variable View**.
- b) **Copy** the data in variable view by clicking **Data View**, and then **Paste** in item 1,2,3 and so on.
- c) Then click to **Analyze**.
- d) Click **Scale**.
- e) Click **Reliability analyze**.
- f) After that, the **Reliability Analysis** box appears then blocks item 1,2,3 and so on.
- g) Click **The Arrow** so that all items enter the items box.
- h) Click **Statistics**
- i) After click to **Statistics**, the display will appear the **Reliability Analysis Statistics**, then in **Descriptive for**, select in the box, **Item, Scales, Scales if item deleted**. The last click to **Continue**.

j) After click **Continue**, then a box will appear **Reliability Analysis**. Next click **OK** in the box.

k) After click **OK** on the work box **Reliability Analysis**, there will be some output.

Output SPSS for the validity test is quite a lot, but what needs to be interpreted in the validity test lies in the **Item-Total Statistics**. The validity of each item can be seen in the value of the **Corrected Item-Total Correlation** of each item. Interpretation : if the values in **Corrected Item-Total Correlation** is equal to or greater than the validity index (0,3), then the items are declared **valid** (Nitko in Sugiyono, 2013: 197; Pallant, 2011: 100).

Table 3.1
Result of Validity Test Instrument

Number of Question	Validity Test	
	Corrected Item-Total Correlation	Criteria
1	0.471	VALID
2	0.502	VALID
3	0.497	VALID
4	0.522	VALID
5	0.407	VALID
6	0.403	VALID
7	0.341	VALID
8	0.317	VALID
9	0.498	VALID
10	0.581	VALID
11	0.409	VALID
12	0.432	VALID
13	0.431	VALID
14	0.312	VALID
15	0.382	VALID
16	0.439	VALID

17	0.300	VALID
18	0.348	VALID
19	0.374	VALID
20	0.491	VALID

The result of validity test instrument showed that each question have valid criteria. The criteria of validation if Corrected Item-Total Correlation $\geq 0,3$. And the interpretation of Corrected Item-Total Correlation of all the questions in the instrument more than 0,3. It means that all of questions in the instrument are valid to me.

2) Reliability

Reliability can be defined as the level of a test or instrumental measurement of results that are consistent when carried out under the same/similar conditions (Hatch & Farhady, 1982). Data/instruments reported are reliable equal to or greater than the reliability index ($IR = 0,7$) (Riazi, 2016).

Based on the definition above reliability is a test or measurement instrument that determines quality. There are several ways to estimate reliability between that are alpha reliability, split-half reliability and interrater reliability. But, researchers used estimates from alpha reliability.

The ways to estimate alpha reliability is the same as what is done to estimate content validity. There are a number of SPSS output in this procedure including **Item-Total Statistics**. Another output is reliability of items is 0,841. This means that the above tests have good reliability because they exceed the reliability index (0,7).

Table 3.2**Result of Reliability Test Instrument**

Number of Question	Reliability Test
1	0.828
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

The table above shows that the reliability of the instrument in the research is 0.828, it was reliable to use. Because more than reliability indeks 0,7.

2. Observation

Observation are made for know the situation of students activity and learning process and some of the problems associated with it student reading

comprehension, and the writer using observation list.

3. Interview

Interview items to interview student in reading ability, student weaknesses in reading ability, consist of 2 students in X TKJ and X Marketing.

E. Data Collection Technique

To collect the data, there are some steps that conducted in this quasi experimental research, Data collection techniques that will be carried out this research are:

a. Test

1) Pretest

The student were given a test before treatment, which consisted of a material. This test intended to know the result of students' speaking before receiving the treatment.

2) Posttest

Posttest was given after treatment had been conducted. It was aimed to measure the effect of the treatment. The items and procedures of posttest was the same as pretest

b. Observation

Observation is carried out in an effort to obtain a comprehensive picture of the situation and the product of observation is a note and description Kaswan dkk (2019).

The items observed in the class were about how students' enthusiasm at the learning activity. students' attention to the teacher at the time of delivery of the material, activeness of students in asking and answering questions, students' skills in arguing or criticizing, student interaction when group discussions, order when following the process learning, the appearance of student work in groups, and work on evaluating learning outcomes.

Observation list while treatment

Table 3.3

Observation list

No	Name of Students	Student Activity Aspects								Total
		A	B	C	D	E	F	G	H	
1										
2										
3										
4										
5										
Total score										
Average										
Percentage (%)										

(Sumber: Adaptasi dari Parendrarti, Restika. 2009).

Notes:

- A = Listen / listen to the teacher's explanation
- B = Reading the material provided
- C = Answering teacher questions
- D = Actively in groups
- E = Asking questions to other teachers or students
- F = Following learning activities
- G = Work on the given problem
- H = Can work together in groups

c. Interview

According Burns (1999), interviews and discussion are face-to face personal interaction, which generate data about the research issue and allow specific to discuss from other people perspective. The researcher prepared some questions for the interview, in order to get the information related research problem.

In this research, the researcher interviews the English teacher. The interview was on Wednesday, January 9th 2019. The interview was about to know the strengths and the weaknesses of scientific approach and collaborative approach in teaching reading skill seventh grade students of SMK BBU Padalarang.

The process of Treatment

The test was done before the researcher taught the students by material created teacher. The researcher did treatment in 4 meetings.

- 1) The first meeting, students learn about definition directions.
- 2) The second meeting, students learn about asking and giving directions.
- 3) The third meeting, students learn about asking and giving directions
- 4) The last meeting, students learn about asking and giving directions.

F. Data Analysis

The process of analyzing the data were carried out after the researcher collected all the data of the study. The data would be analyzed automatically by using

SPSS (Statistic Product and Statistic Solution) version 25 with the significance level of 0.05. Those are some steps in analyzing the data of the study:

1. Normality Test

Normality test is a test that is used to determine if a set of a data is normality distributed. In this research, the normality test was analyzed by Kolmogorov Sminov technique with SPSS. If the normality score was more than 0.05, it could be said that the data distribution was normal. On the contrary, if the score of normality test showed less than 0.05, it could be said that the data distribution was not normal.

2. Man Whitney U Test

Mann-Whitney U test is the non-parametric alternative test to the independent sample t-test. It is a non-parametric test that is used to compare two sample means that come from the same population, and used to test whether two sample means are equal or not. Usually, the Mann-Whitney U test is used when the data is ordinal or when the assumptions of the t-test are not met. If the significant of Asymp. Sig. is higher than sig 0.05 it means that the Null hypothesis (H_0) is accepted and Alternative Hypothesis (H_a) is rejected.

3. Homogeneity Test

The homogeneity test was done to know the relevance in the population of research homogeneity or not. the homogeneity test was to measure the data of the population homogeneity or not by using SPSS Ver.25 with Levene's Test Statistic test with a level of significance = 5% in this research. If the result indicates p-value or sig is higher than 0.05, then the null hypothesis is

accepted (It means that the sample has a homogeneous variance). On the contrary, if p-value or sig is lower than 0.05, then the null hypothesis is rejected (It means that the sample does not have a homogeneous variance).

4. T-test

T-test is the main data analysis process that is purposed to test if any significant difference between the two classes can be identified. By t-test, it is determined which of the hypothesis offered, the null hypothesis or alternative hypothesis, is accepted or rejected. The t-test used in this research specifically is independent-samples T-test with a two-tailed test of significance. If the result indicates p-value or sig (2-tailed) higher than sig $\alpha = 0.05$ (5%), then the null hypothesis is accepted. On the contrary, if p-value is lower than sig $\alpha = 0.05$ (5%), then the alternative hypothesis is accepted.

5. Observation

The ways to doing observation were :

- a) The researcher prepared the materials to conduct the observation such as:
paper, pen and camera
- b) The researcher joined in the classroom
- c) The researcher observed teacher's strategies in teaching speaking skill.

This method is used to get any information about the teacher strategies in teaching speaking skill in SMK BBU Padalarang in tenth grade. In this case, the researcher observed whatever done by the English teacher related to the teacher strategies in teaching speaking in the classroom.

6. Interview

The researcher used structure interview. The interview was done after finished the teaching and learning process. This interview will conduct to gain a spoken respond from the participants. The function of interview in this research were to cross-check the data and to make sure that the data from the observation were really valid.